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EXAMINER	
GABEL, GAILENE	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 25

Application Number: 09/443,070
Filing Date: November 18, 1999
Appellant(s): GILTON, TERRY L.

Terry L. Gilton
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/30/02.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that grouped claims 1, 2, 8, 12-17, and 30 and grouped claims 18-29 and 31 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

US 5,571,410	Swedberg et al.	11/1996

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 2, 8, and 12-31 are rejected under 35 U.S.C. 102(b). This rejection is set forth in prior Office Action, Paper No. 19 as follows.

Swedberg et al. disclose a miniaturized planar column device for use in chromatographically or electrophoretically separating and analysing analytes in a mobile phase (see Abstract and columns 12-14). The miniaturized columns are formed (laser ablated) into a substantially planar nonporous substrate (see column 11, lines 4-62 and column 15, lines 43-55). The non-porous substrate comprises polyamides such as nylons, polyimides, polyolefin compounds, and polymethylmethacrylate (see column 21, line 49 to column 22, line 4). Swedberg et al. specifically disclose that the miniaturized columns may have porosity formed thereto (sample treatment component) by

incorporating a porous medium comprising particles or membranes made from polyamides such as nylon, polymethylmethacrylate; thus, forming a biocompatible porous matrix having the same material as the nonporous substrate (see column 27, lines 33-43). The matrix performs both a filtration function and a capture. The capture substrate formed includes antigens (biological affiant), antibody, lectin, enzyme substrate, capture oligonucleotide, etc. (see column 27, lines 44-61). Swedberg et al. also disclose that each miniaturized column has a detector disposed proximate a detection region (see column 4, lines 52-67, columns 8-9, and column 17, lines 31-45). The device allows a variety of drawing (injection or motive force) methods including application of differential pressure (pressure injection), capillary action (hydrodynamic injection), and electrical current (electrokinetic injection or electroosmotic flow) (see column 5, lines 4-13, column 11, lines 58-63, and column 17,lines 47-64). Swedberg et al. also disclose a "LIGA" process wherein microstructures having high aspect ratios and increased structural precision and uniformity in channels ports, apertures, and microalignment means are fabricated into the device (see column especially column 13, lines 9-33). In Example I, Swedberg et al. exemplify separation and determination of immunoglobulins wherein assay and detection reagents are incorporated into the device during analysis.

(11) Response to Argument

4. Appellant's arguments filed 10/30/02 with regards to the rejection of the claims as being anticipated by Swedberg, have been fully considered but they are not persuasive.

A) Appellant argues that Swedberg lacks any express or inherent description of a method which includes applying a sample to a porous capillary column which is formed in a nonporous substrate. According to Appellant, Swedberg instead only provides that the column is formed in a nonporous substrate and then ***filled*** with a separately formed porous medium.

In response, the term "formed" or "forming" such as in the context of the claimed invention is a broad term which does not exclude "filling in" a separately formed porous medium as taught by Swedberg. Appellant fails to recite that 1) the porous medium is "formed from" the nonporous substrate or 2) the nonporous substrate is porified to thus form the porous substrate; hence, the porous matrix is composed of the same material as the nonporous substrate. Alternatively, since the claims are drawn to a method of using a separation apparatus, i.e. a method of substantially isolating a constituent of a sample (using the apparatus) as recited in the preamble, as opposed to a method of making the separation apparatus, the recitation of "a porous capillary column formed in a nonporous substrate, ... matrix including the same material as the nonporous substrate" bears no patentable weight.

B) Appellant argues that Swedberg fails to mention that the same material may be used to form both a substrate and the porous medium with which columns in the substrate are filled. Appellant specifically contends that Swedberg does not describe a substrate with a column formed therein having a matrix formed from the same material.

According to Appellant, none of the working examples exemplify a porous matrix which 0is formed from the same material as the non-porous substrate.

Contrary to Appellant's argument, Swedberg, indeed, expressly teaches miniaturized column devices formed (laser ablated) into a substantially planar nonporous substrate in column 11, lines 4-62 and column 15, lines 43-55. Swedberg teaches that the **non-porous substrate comprises polyamides such as nylons**, polyimides, polyolefin compounds, and **polymethylmethacrylate** in column 21, line 49 to column 22, line 4. Swedberg also teaches that the miniaturized columns may have porosity formed thereto (sample treatment component) by incorporating a **porous medium comprising particles or membranes made from polyamides such as nylon, polymethylmethacrylate**; thus, forming a biocompatible porous matrix having the same material as the nonporous substrate (see column 27, lines 33-43). Alternatively, since the claims are drawn to a method of using a separation apparatus, i.e. a method of substantially isolating a constituent of a sample (using the apparatus) as recited in the preamble, as opposed to a method of making the separation apparatus, the recitation of "a porous capillary column formed in a nonporous substrate, ... matrix including the same material as the nonporous substrate" is given no patentable weight.

C) Appellant argues that Swedberg lacks any express or inherent description of applying a sample to and drawing the sample across a flow front through a matrix of a

porous capillary column that is formed in and from the same material as the nonporous substrate.

In response to Appellant's argument that the porous matrix of the capillary column **is formed in or from the same material as** the nonporous substrate, it is noted that independent claims 1 and 18, and all claims dependent therefrom, recite "porous capillary column formed in the nonporous substrate, the porous capillary column comprises a matrix including the same material as the nonporous substrate". The recitation of "formed in" broadly encompasses "filling in" as taught by Swedberg. Swedberg, indeed, discloses that the porous matrix is formed in and from the same material as the nonporous substrate. Specifically, Swedberg discloses in column 21, line 49 to column 22, line 4, that **the nonporous substrate comprises polyamides such as nylons**, polyimides, polyolefin compounds, and **polymethylmetharcylate**. Further in column 7, lines 33-43, Swedberg discloses that the miniaturized columns may have porosity formed thereto by incorporating **a porous material comprising particles or membranes made from polyamides such as nylon, or polymethylmethacrylate**; thus, forming a biocompatible porous matrix having the same material as the nonporous substrate. If Appellant intends that the porous matrix is formed from the same material comprising or consisting of the nonporous substrate, i.e. by porifying the nonporous substrate, it is noted that such a recitation is not reflected in the rejected claims. Alternatively, since the claims are drawn to a method of using a separation apparatus, i.e. a method of substantially isolating a constituent of a sample (using the apparatus) as recited in the preamble, as opposed to a method of making the separation

apparatus, the recitation of "a porous capillary column formed in a nonporous substrate, ... matrix including the same material as the nonporous substrate" bears no patentable weight.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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October 24, 2003

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